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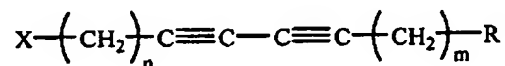
In the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A cross-linked material ~~dendritic polymer network compound~~ comprising dendritic polymer blocks intermolecularly cross-linked by a linear moiety having alternating conjugated double and triple bonds, and at least one sensory group covalently bonded directly to the dendritic polymer block or bonded indirectly to the dendritic polymer block through a spacer moiety and interdendritic cross-linking segments of alternating conjugated double and triple bonds.
2. (Currently Amended) A ~~compound~~ cross-linked material of claim 1, wherein the alternating conjugated double and triple bonds are formed by intermolecular polymerization of diacetylene-functionalized dendritic ~~precursors~~ polymers.
3. (Currently Amended) A ~~compound~~ cross-linked material of claim 2, wherein the dendritic ~~precursor~~ polymer is a dendrimer.
4. (Currently Amended) A ~~compound~~ cross-linked material of claim 2, wherein the dendritic ~~precursor~~ polymer is a hyperbranched polymer.
5. (Currently Amended) A ~~compound~~ cross-linked material of claim 2, wherein the dendritic ~~precursor~~ polymer is a hyperbranched polymer having an average degree of branching from about 0.25 to about 0.45.
6. (Currently Amended) A ~~compound~~ cross-linked material of claim 2, wherein the dendritic ~~precursor~~ polymer is a dendron.
7. (Currently Amended) A ~~compound~~ cross-linked material of claim 2, wherein the dendritic ~~precursor~~ polymer is a dendrigraft.

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8. (Currently Amended) A ~~compound~~ cross-linked material of claim 2, wherein the dendritic ~~precursor polymer~~ is a dendronized linear polymer.
9. (Currently Amended) A ~~compound~~ cross-linked material of claim 2, wherein the dendritic ~~precursor polymer~~ is a tecto-dendrimer.
10. (Currently Amended) A ~~compound~~ cross-linked material of claim 1, wherein the sensory group is attached directly to a dendritic ~~segment~~ block of the ~~compound~~ cross-linked material.
11. (Currently Amended) A ~~compound~~ cross-linked material compound of claim 1, wherein the sensory group is attached to a dendritic ~~segment~~ block of the ~~compound~~ cross-linked material through a spacer.
12. (Currently Amended) A ~~compound~~ cross-linked material of claim 11 where the spacer through which the sensory group is attached to the dendritic segment comprises a diacetylene or polydiacetylene moiety.
13. (Currently Amended) A diacetylene functionalized dendritic compound obtained by reaction of a dendritic polymer with a diacetylene reagent having the following general formula:



wherein X is a group that reacts with one or more end groups of the dendritic polymer; R is a sensory group~~[[,]] a linker, an unreactive organic functional group₂ or a group that is less reactive than X; and~~ n and m are integers.

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14. (Currently Amended) A compound of claim 13 in which X is Cl-, Br-, I-, p-tosyl, mesyl, acryloxy, isocyanato, epoxy, CH₃OC(O)-, ClC(O)-, [[N-hydroxysuccidimyl-C(O)-]] N-hydroxysuccinimidyl-C(O)-, pentafluorophenoxy-C(O)- or p-nitrophenoxy-C(O)-.
15. (Currently Amended) A ~~compound~~ cross-linked material of claim 13 in which n is 0 to 25.
16. (Currently Amended) A ~~compound~~ cross-linked material of claim 13 in which m is 0 to 25.
17. (Currently Amended) A ~~compound~~ cross-linked material of claim ~~[[1]]~~ 2 ~~derived from a~~ in which the dendritic polymer which has only one type of reactive end-group.
18. (Currently Amended) A ~~compound~~ cross-linked material of claim 17 in which the dendritic polymer has -NH₂ end-groups.
19. (Currently Amended) A ~~compound~~ cross-linked material of claim ~~[[1]]~~ 2 ~~derived from a~~ in which the dendritic polymer which has ~~a mixture of~~ two or more types of reactive end-groups.
20. (Currently Amended) A ~~compound~~ cross-linked material compound of claim 19 in which the dendritic polymer has ~~a mixture of~~ -NH₂ and -OH end-groups.
21. (Currently Amended) A ~~compound~~ cross-linked material of claim 20 in which the dendritic polymer is a polyamidoamine (PAMAM) dendrimer.
22. (Currently Amended) A ~~compound~~ cross-linked material of claim 20 in which the PAMAM dendrimer has ~~a mixture of~~ 50% -NH₂ end groups and 50% -OH end groups.

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23. A ~~compound~~ cross-linked material of claim 20 in which the PAMAM dendrimer has a ~~mixture of~~ 25% -NH₂ end groups and 75% -OH end groups.

24. (Currently Amended) A ~~compound~~ cross-linked material of claim 1, wherein the sensory group is selected from the group consisting of peptides, carbohydrates, nucleic acids, biotin, avidin, histamine, chromophores, antigens, antibodies, enzymes, chelating compounds, molecular recognition complexes, ionic groups, polymerizable groups, linker groups, electron donors, electron acceptors, hydrophobic groups, hydrophilic groups, receptor binding groups, antibodies, and combinations thereof.

25. (Currently Amended) A method of detecting and/or quantifying the amount of an analyte in a sample, comprising:

contacting a sample that is to be analyzed for a particular analyte with a cross-linked dendritic ~~chemical and/or biological sensing~~ material of claim 1;

allowing specific binding between the analyte and the sensory group;

monitoring a detectable colorimetric change caused by specific binding between the analyte and the sensory group; and

correlating the detectable change with the presence of an analyte in the sample, and optionally correlating the detectable change with an amount of analyte present in the sample.

26. (Original) The method of claim 25 where the sensing material is imbedded in or deposited on a solid substrate.

27. (Original) The method of claim 26 where the substrate is glass, quartz, silicon, other metals, wood, plastic, paper, cellulose or nitrocellulose.

28. (Original) The method of claim 25 in which detection is achieved by means of a visible color change.

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29. (Original) The method of claim 25 in which quantitative detection is achieved by means of a color change measured with an ultraviolet/visible spectrometer.

30. (Original) The method of claim 25 in which detection is achieved by means of a change in fluorescent properties.